Energy dependence is our reality. Energy security, rational and responsible use of energy, and the necessity to protect Critical Energy Infrastructure (CEI) are conditions that must be fulfilled in order to ensure free and undisturbed development of society, the state and community. Energy has been used as a weapon since the time when the possibility of creating and preserving fire made a difference between those that will survive and those that will disappear. Today, energy is a non-kinetic weapon used to achieve a lot of different goals (such as political, economic, social, security) at the strategic, operational, and tactical levels. Many countries are dependent on energy sources from abroad. The problem is even bigger if the supply is dependent on only one source.

Requirements that must be met for efficient, reliable and complete power supply are:

- The diversity of energy supply routes, suppliers and energy sources,
- The reliable connections between national energy infrastructures with energy infrastructure of other countries, therefore their interconnectivity, and
- The ability for fast, successful and full recovery after emergencies, resilience.

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1 Member of St. George Association and head of the organization committee of the Zagreb Security Forum 2016.
Energy critical infrastructure consists of several systems: production, processing, storage, distribution, recycling and use of energy.

CEI, as well as any other critical infrastructure (CI), must be reliable, efficient, complete, accessible, stable, and economically viable in order to perform tasks for which it was built or restored. This applies particularly to energy CI because the effectiveness of the existence of all other CI is based on the stability and usability of ECI. Just like other part of national infrastructure network (Figure 1.) depends on other parts of the network (information and communication systems make other networks better; food and water and public services make better and easier life, etc.).

Figure 1. Critical infrastructure interconnected network

Each national CEI is part of the international CEI network. At same time there are both advantages and disadvantages of this. Problems that might occur in the first part of the critical infrastructure chains can have a cascade effect that stimulates a problem at the end of that infrastructure. At the same time other critical infrastructures that are closely linked and bound to endangered CI network suffer from those instabilities.
CEI is threatened by actions that are taking place in three interconnected domains: physical, informational, and cognitive. There are several types of possible threats:

- Terrorist attacks,
- Cyber attacks,
- Climate / natural disasters,
- Political instability,
- Conflicts and wars,
- Technical errors, outdated systems, and
- The human factor.

Although there is no single energy (security) policy at the international level, awareness of the need to protect CEI is increasing day by day. The responsibility for the protection of CEI lies with the state (state institutions and the public sector), academic and private sector that are engaged in production, and distribution of energy and energy resources. Therefore, the future of effective protection of CEI is in close cooperation between all of them, and in a fully integrated approach. Cooperation should reach the level of a reliable management system and resources, sharing of information and knowledge that exists in specialized institutions, organizations and agencies. There is no effective and successful information cooperation (that also means intelligence) if there is no responsibility, mutual trust, confidentiality and reliability of all the parties involved in the protection of CI. This is the reason why it is necessary to build an information management system between the public and private sector, especially in the domain of preventive activities. An exchange of classified data, close connection between different parts of the system, and the development of consciousness that only joint activities can provide stable activities of CI has to be organized. The necessity for close cooperation between the public and private preventive security sectors in order to predict possible threats/challenges, the analysis of the existing situation and the plan of preventive actions is reality. This includes the exchange of all data, including those that all sides consider as classified.
There is no absolute and complete security from any form of threat. It is necessary to develop a system that will survive the damages in case of certain incidents, and that can be fully restored as soon as possible to a condition prior to the accident. In other words, critical infrastructure resilience. Of course environmental protection is a condition sine qua non that has to be taken into account in any energy strategy planning.

The purpose of the Forum is to bring together proven experts from several different but interconnected fields, to discuss with policy makers and security officials the best way to deal with these emerging threats in their regional and European context. The Forum aims at sharing best practices, case study analysis, policy options debate and the creation of a regional network of experts and officials in South Eastern Europe for critical energy infrastructure security. Expert knowledge, based on practical experience and the development of defensive strategies and policies, needs to be shared in order to be effective and useful to different countries. We want to enable a close knowledge-sharing process so that each segment could be appropriately involved in the effective protection of national energy infrastructures and with orientation to preventive actions.

At the Forum we gathered proven experts in the domain of government institutions dealing with preventive actions, experts from the private sector who are working on security of the energy related projects and infrastructure, scientists who can indicate the forms of possible threats, and the companies that plan, design, build, maintain and manage energy infrastructures and energy transport. Since energy infrastructures of different countries in the region are interconnected, so should the response be. In fact, today we cannot speak of ‘national infrastructure’ anymore, but of regional energy infrastructures. Multidisciplinary approaches of experts with different experience and from different, but interconnected countries will be very helpful for future planning and development of the security of energy infrastructure on land or under the sea, gas or oil pipelines, electric power lines or ships.

Messages and lessons of many experts who participated in the ZSF can be summarized in few sentences:

1. The Republic of Croatia must, with the aim of providing a safe and stable basis for the development of society and the
state, reach a wide consensus to bring the National Development Strategy of the Republic of Croatia in order to offer sustainable and efficient answers to present and future challenges that we, as a state and society, but also as part of international community, are being or will be faced with. The strategy, as well as other strategies that will arise from it, should be clear, simple, understandable, legible, and must provide us with answers to questions that the strategy requires as such. It should be realistic, rational and flexible enough to sustain the burden of constant cross-checking in the period to which it relates.

2. Strategy of national/international Critical Infrastructure Protection (CIP) should start from the fact that the Republic of Croatia needs to develop an effective system that will enable the planning, utilization, protection and recovery of its critical infrastructure, and that has become part of the international critical infrastructure by Croatia’s entry into NATO and the EU. At the same time national CIP is more vulnerable to different types of threats but also safer with regard to eliminating possible adverse effects. National CIP is also a basis for all future developments (economic, social, secure, etc.) of society and the state.

3. Implementation of the critical infrastructure protection strategy must be based on an integrated system of close cooperation between government institutions, academic community, and particularly in the public and private economic sector. This cooperation must be pyramidally structured enabling close cooperation between all necessary institutions and companies at all levels of planning, organizing, decision-making, and action without unnecessary bureaucratic delays in the implementation of the necessary measures in order to protect certain parts of the system, or the system as a whole.

4. In this sense, it is necessary to develop a system of shared responsibility in the decision making process at all levels (state, county, city).

5. There is no critical infrastructure which is not vulnerable in a certain way or insensitive to many different kinds of threats/challenges. Planning, as well as reaction, of the security and safety systems toward different types of threats in order to reduce possible damage, eliminate the causes and consequences, and rapid and efficient recovery of the system (either partially or as a whole) should be the subject
of systematic and regular checking of all necessary parts of the system.

6. In this regard, in order to adapt the existing system of security to new challenges, it is necessary to initiate changes that will lead to implementation of the Homeland Security concept, which, among other things, should establish an institutional central point of reference in fulfilling the task of primarily preventive and effective protection, and recovery in case of endangering the critical infrastructure.

At the first Zagreb Security Forum we exchanged experiences and knowledge that exist in practical and theoretical models that can contribute to more effective preventive activities to protect CI as well as the procedures and activities necessary to be done in order to return the attacked CI, quickly and successfully, to the activity level prior to the attack. Knowledge that different experts had shared with us during those two days is going to be a pattern that we will try to repeat in the future Zagreb Security Forums.
Zagreb Security Forum 2016

Panel I: Energy Security as Strategic Tool and Strategic Interest

Chair: Gordan Akrap, St. George Association, Zagreb

**Michael R. Rousek:** The U.S. Commitment to Energy Security for All of Europe

**Shlomo Shpiro:** Crisis Communication, Social Resilience and the Protection of Critical Infrastructure

**Gintaras Bagdonas:** NATO Role in Energy Security: The Perspective of Energy Security Centre of Excellence

Panel II: Protection of Critical Energy Infrastructure – How Can It Be Improved

Chair: Nenad Debrecin, University of Zagreb

**Ioannis Anastasakis:** The Protection of National Critical Infrastructure - The Case of Greece

**Chikara Hashimoto:** National Critical Infrastructure Protection in the United Arab Emirates

**Pavle Kalinić:** Critical Infrastructure Protection in the Zagreb City Region

Panel III: South-Eastern Europe and the Eastern Mediterranean – Different Energy Strategies, Similar Threats

Chair: Pavle Kalinić, Office for Emergency Crisis Management, Zagreb

**Antonia Dimou:** East Mediterranean Energy Cooperation and Security Challenges

**Darko Trifunović:** Russian Energy Policy in South-Eastern Europe

**John M. Nomikos:** Intelligence Requirements for Energy Security in Greece

Keynote speaker:

**Danny Lacker:** Emergency Preparedness and Security of Israel's Water Infrastructure
Panel IV: Securing Electric Energy Production and Distribution

Chair: Shlomo SHPIRO, Bar-Ilan University, Ramat-Gan, Israel

Efraim Lapid: Coping with Terror – The Israeli Experience

Davor Šlinka, Slavko Krajcar, Tomislav Bajs: Assessing Terrorist Threats for Energy Infrastructure by Combining Historical Data and Expert Judgments


Panel V: New Threats and Best Practice Solutions for Energy Production Security

Chair: John Nomikos, RIEAS, Greece

Dejan Škanata, Nenad Debrecin: Safety and Security in Nuclear Power Sector

Anna Abelmann: Securing Castor Transports and Nuclear Energy Materials – The Case of Germany

Velimir Ostoić, Damir Kovač: Protection of Oil Pipeline Facilities - Practical Experiences from Croatia

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Co organisers of the 1st Zagreb Security Forum were:

1. Croatian Defense Academy “Dr. Franjo Tuđman”, Zagreb, Croatia
2. Bar-Ilan University, Department of Political Studies, Ramat-Gan, Israel
3. International Intelligence History Association, Germany
4. Research Institute for European and American Studies, Athens, Greece
5. Zagreb City Office of Emergency Management, Zagreb, Croatia
6. Adriatic Security Solutions d.o.o., Zagreb, Croatia

1st Zagreb Security Forum was organized under the auspices of
H.E. the President of the Republic of Croatia,
Mrs. Kolinda Grabar-Kitarović
Speakers at the ZSF 2016

Shlomo Shpiro

Crisis Communication, Social Resilience and the Protection of Critical Infrastructure

Prof. Dr. Shlomo Shpiro is Head of the Political Studies Department at Bar-Ilan University and Senior Research Fellow at the BESA Center for Strategic Studies. Since 2008 he is also Chairman of the International Intelligence History Association (IIHA).

He specializes in intelligence, terrorism and security studies. His research activities concentrate on the role of intelligence services as political mediators in the international arena, the intelligence activities of terror organisations, intelligence ethics and political influence, and on security crisis management and crisis communication.

Gintaras Bagdonas

NATO Role in Energy Security: the Perspective of Energy Security Centre of Excellence

In 1991 he graduated from Kaunas University of Technology, Faculty of Energetics with an engineering sciences degree. Between 2004 and 2006 he studied at the Institute of International Relations and Diplomacy at Vilnius University and holds an MA in Political Sciences. In 2002 Col. BAGDONAS completed the strategic senior officer course at NATO Defence College, Rome, Italy.

Career: Col. BAGDONAS was appointed as Director of NATO Energy Security Centre of Excellence (NATO ENSEC COE) based in Vilnius, Lithuania in August 2014. Prior to this appointment he had a two-year assignment as Minister Counsellor and Head of the Special Mission of the Republic of Lithuania to the Islamic Republic of Afghanistan in Kabul under the subordination of the Ministry of Foreign Affairs of the Republic of Lithuania. Before this appointment he served as Commandant of the General Jonas Zemaitis Military Academy of Lithuania; Director of Intelligence of the EU Military Staff, (interim Brigadier General Rank) in Brussels, Belgium; Director of the Second Investigation Department
Col. BAGDONAS has published several articles on different aspects of strategic partnership and international relations. He has also given lectures on "Intelligence and State" for the Military Diplomacy Master Students at the Military Academy of Lithuania. Besides native Lithuanian language, Col. Bagdonas speaks English and Russian and has acquired basic knowledge of French and Persian. His interests and hobbies include mountaineering, cycling, professional and historical literature.

Ioannis Anastasakis

The Protection of Critical Energy Infrastructure: The Case of Greece

Ioannis Anastasakis is an Air Force Academy (Greece) graduate who retired as Lieutenant General-Air Force pilot. He is RIEAS International Advisor and founder of the Regional Observatory for Security and Economic Development (ROSED). He was designated “Expert Group” Chairman to the multinational Wassenaar Arrangement, which deals with export controls of military and advanced technology goods and technologies. He was also member of the Greek Ministry of Foreign Affairs' International Sanctions Monitoring Working Group.

Lieutenant General (ret.) Anastasakis is experienced in MoD international and bilateral relations, with specialty in security, cooperation, procurement, defense investment and armaments. He was previously posted to NATO/SHAPE staff in Belgium as “Reaction Forces Exercise Planner”. Periodically he performs as a guest speaker in institutions, military and diplomatic academies, staff colleges, C-5 and RIEAS courses. He is author of two books titled: “Asymmetric Threats and Controlled Items” and “Controlled Items of Military Significance: Case Studies".
Chikara Hashimoto

National Critical Infrastructure Protection in the United Arab Emirates

Dr. Chikara Hashimoto received his Ph.D. in International Politics from Aberystwyth University, the UK. He is Assistant Professor in International Relations, University of Sharjah, the UAE, and Assistant Editor of Intelligence and National Security. His doctoral thesis was awarded the British Society for Middle Eastern Studies (BRISMES) Leigh Douglas Memorial Prize for the best Ph.D. dissertation on a Middle Eastern topic of 2014. His book based on his Ph.D., British Intelligence and Counter-Subversion in the Middle East, 1948-1963, is forthcoming by the Edinburgh University Press.

Pavle Kalinic

Critical Infrastructure Protection in the Zagreb City Region

He graduated from the Faculty of Political Science of the University of Zagreb in 1982. In the same year, he received his master's degree in International Relations. He worked as an Assistant Professor at the University of Political Science from 1986 to 1987, and at the College of Technical Science from 1987 to 1991. In 1989-1990, as an assistant at the Faculty of Political Science, he participated in the scientific project "Characteristics of Political Behavior in the Region". In 1989 he founded Fokus, the first independent magazine in Croatia which was published until the end of 1990. During 1991 he participated in the Homeland War as an army officer. He underwent medical treatment in the U.S. after being wounded on the battlefield. He resided in the United States the following two years, returning to Croatia in 1994. He worked for the Croatian Helsinki Committee for Human Rights in 1994 and 1995. In 1997 he became a member of the Zagreb City Assembly, as well as a member of the Croatian Parliament in 2000. In 2006 he became head of the Department of Education, Culture and Sports in Zagreb; as of 2008, he is the head of the Zagreb Office of Emergency Management. In July 2012 he obtained his Ph.D. with the thesis The Politics of G. W. Bush Administration and Islamic Terrorism.
Antonia Dimou

East Mediterranean Energy Cooperation and Security Challenges

Antonia Dimou is Senior RIEAS advisor and serves as diplomatic advisor at the Hellenic Parliament. She is associate at the Center for Strategic Studies, University of Jordan, and senior fellow at the Center for Middle East Development University of California, Los Angeles, Unites States, since 2006. She is also head of the Middle East Unit at the Institute for Security and Defense Analyses based in Athens, and Advisory Board member of the European Rim Policy and Investment Council based in Cyprus.

Ms. Dimou served as Advisor to the Foreign and Defense Relations Committee, Hellenic Parliament; Advisor to the Greek Ministers of National Defense; Expert at the General Directorate of Industrial Development, Ministry of Defense; and expert at the Center for Analysis and Planning, Ministry of Foreign Affairs. She received an IVLP fellowship by the the U.S. State Department, a scholarship by the Greek and Jordanian governments, and a Project Inter-change fellowship of the AJC.

She holds a certificate on American National Security from Harvard University and on Terrorism and Counter-Terrorism from Georgetown University.

Darko Trifunović

Russian Energy Policy in South-Eastern Europe


Dr Darko Trifunovic is a research fellow and lecturer at the Faculty of Security Studies at the University of Belgrade, a specialist in Counter-Terrorism, National and International Security Studies. He has been elected to the position of a visiting professor at the Fudan University in China, Center for American Studies as well as research fellow of the Shanghai Institute of European Studies.
Dr Darko Trifunovic is Senior Advisor at the RIEAS-Research Institute for European and American Studies as well as member of Advisory Board of the Institute of Transnational Studies. He is former First Secretary of the Foreign Service of Bosnia and Herzegovina at the UN, Adviser to the State Secretary for War Crimes of Republic of Srpska for Terrorism and Violence and he was (in 2005) Adviser to the Minister of Police of the Republic of Srpska, Bosnia and Herzegovina.

The Shanghai Center for International Studies appointed Dr. Darko Trifunovic as the first foreign expert for the Olympic Games (2008) security preparation in China. He was engaged in World Expo Security preparation 2010, Shanghai, China. Dr. Darko Trifunovic is one of the founding members of ICTAC – International Counter-Terrorism Academic Community.

John M. Nomikos

Intelligence Requirements for Energy Security in Greece

John M. Nomikos (Ph.D.) is Director at the Research Institute for European and American Studies, Chairman of the Mediterranean Council for Intelligence Studies (MCIS), Chairman of the Greek Intelligence Studies Association (GISA), Chairman of the European Intelligence Academy (EIA) and Founding Editor, Journal of Mediterranean and Balkan Intelligence (JMBI).

He is Assistant Professor in the Webster University (Athens Campus) and Head of the Department of International Relations, History and Politics. He is also Visiting Professor at the Peace Keeping Security Studies (postgraduate program) in the University of Rome (Tre) in Italy. He was Adjunct Professor (2005-2007) at the Department of International Relations in the University of Indianapolis (Athens Camus).

He earned his bachelor’s degree in Sociology at the Northeast Louisiana University in 1987, his master’s degree in European Integration and Cooperation at the University of Hull, 1991, and his doctorate in International Relations and Diplomacy at the Washington International University in 2001. He specializes in transatlantic intelligence studies, intelligence reform, and national security architecture. He
has done research and studied in various research institutions in the USA, the UK, Norway, Finland, Germany and Israel.

Danny Lacker

Emergency Preparedness and Security of Israel's Water Infrastructure


Ephraim Lapid

Coping with Terror – The Israeli Experience

Brigadier General (Res.) Ephraim Lapid (Ph.D.) has a rich career in military and public service in Israel. He served as a Senior Intelligence officer and Spokesperson of the Israel Defense Forces (I.D.F). He was an instructor in the Israeli National Defense College.

After retiring from the Israeli military, he served as a senior official in the Jewish Agency. He is a lecturer at the Bar-Ilan and Haifa Universities. Ephraim Lapid holds an M.A. in Political Science from the University of Haifa, and a teaching certificate. He received his Ph.D. at the Bar-Ilan University.

Davor Šinka

Assessing Terrorist Threats for Energy Infrastructure by Combining Historical Data and Expert Judgments

Davor Šinka was born in Zagreb, Croatia, where he finished his elementary and high school education. He received his B.S. and M.S. degrees in electrical engineering from the
Department of Energy and Power Systems at the University of Zagreb, Faculty of Electrical Engineering and Computing. In 2014 he earned his Ph.D. from the same department with the thesis titled "Quantitative Terrorism Risk Assessment and Management Method for Energy Systems". Since 1996 he has been employed by a privately owned company ENCONET. His main working areas are technological risk analysis and nuclear/radiological emergency preparedness and response. He participates in various projects in both safety and security domains, where quantitative risk assessment and management methods have to be applied. Also, he organizes education, training and exercises.

In the period from 1998 to 2008 he was a member of the centre for providing expert support in case of a nuclear accident, operated by the Croatian State Office for Nuclear Safety. Since 2004, he is a member of the working group for the development of the European early notification and data exchange systems used in the event of a radiological or nuclear emergency. He is an author or co-author of more than 20 scientific or expert articles and more than 40 reports prepared for state institutions and industry. He collaborated on scientific projects sponsored by the Ministry of Science, Education and Sports. He is a member of the international organization - The Society for Risk Analysis.

Hrvoje Sagrak

Generic Control System Architecture for Critical Infrastructure Protection: Example of Energy Sector

Hrvoje Sagrak is a graduate lawyer with a diploma from the University of Zagreb. He also completed also the Executive MBA two-year postgraduate program at the Cotrugli Business School in Zagreb. He started his professional career in the public sector, working for the Croatian Ministry of Foreign Affairs for 11 years and being posted, among other duties, for two mandates abroad in embassies (Canada and Germany) as Head of Consular Section. Returning to the Ministry, he worked for the Political Analysis Department as a Counsellor.

Since 2004 he is in the IT industry, working for leading Croatian IT companies as business development manager and as project director in complex projects. From 2008 to 2012 he held a pro-bono position of the president of the ICT
branch association of the Croatian Employers’ Association (CEA ICT) and from 2012 to present day, he is Vice-President and Head of the Section for e-Business and e-Government. At INFODOM, Mr. Sagrak has been a sales and marketing director, then director of the Public Sector business line and director of the Export Program.

As a project director and business consultant, Mr. Sagrak recently worked on the following projects:

- Ministry of Finance – the Customs Administration – e-Government Operations Platform and e-Inspections
- World Bank project in the Croatian Health Insurance Fund Business Process Re-engineering
- World Bank project for the Ministry of Health and Croatian Agency for Public Health, Integration of National Health registers
- World Bank project in Kosovo – e-Public Procurement System implementation

Mr. Sagrak has been leading and supporting several national initiatives through the Croatian Employers Association- ICT branch association, such as Transparency in Procurement of ICT solutions, Standard Project of the Electronic Document Management in Public Sector, and e-Invoicing. He headed an expert team of the CEA ICT in cooperation with the Ministry of Administration – Department for e-Croatia for setting up the Strategy of e-Croatia 2020.

Dejan Škanata

**Safety and Security in Nuclear Power Sector**

Dejan Škanata was born in 1958. Graduated in 1983 from the University of Zagreb, Faculty of Electrical Engineering and Computing, Croatia. Background in nuclear engineering. In 1996 he carried out the fellowship at Brookhaven National Laboratory, Upton, NY, USA. In 1999 he got a Ph.D. degree with the thesis “A Method for Risk Assessment of Radioactive Waste Repository”.
He has almost 30 years of working experience in the field of Radioactive Waste Management and Risk Analysis. He works as a teaching professor at the University of Zagreb Faculty of Electrical Engineering and Computing (Risk Analysis - postgraduate program) and University of Applied Studies in Velika Gorica (System Reliability and Risk Assessment - graduate program and Corporate Risk and Security - postgraduate program).

He participated in several international certified training programs related the Radioactive Waste Management, Nuclear and Radiological Emergency Planning and Risk Assessment and Management. He also participated in several international scientific programs such as: Harmonization of Nuclear Emergency Preparedness (IAEA); Use of Probabilistic Safety Assessment for Nuclear Installations with Large Inventory of Radioactive Materials (IAEA); Integrated Health and Environmental Risk Assessment and Risk Management in Large Industrial Areas (UNEP, WHO, UNIDO, IAEA); and Decommissioning Risk Management (IAEA). He was co-director of the Advanced Research Workshop on Computational Models of Risks to Infrastructure held in Primošten, Croatia, 2006, supported by the NATO Science for Peace and Security Program.

He published some 95 professional papers and four books. He won the Josip Juraj Strossmayer Award for scientific contribution in the field of technical sciences for the year 2000.

Anna Abellmann

Securing Castor Transports and Nuclear Energy Materials – The Case of Germany

Anna Abellmann is a research associate and a Ph.D. candidate of the Ruhr University of Bochum, Germany, Executive Director of the International Intelligence History Association and Journal of Mediterranean and Balkan Intelligence Editorial Board member.

Her doctoral thesis deals with the work of German political foundations in Israel. She specializes in German relations in Israel and the Middle East since 1945, Intelligence and Security Studies and transatlantic security cooperation after World War Two.
Velimir Ostojić, Damir Kovač

Protection of Oil Pipeline facilities - Practical experiences from Croatia

Velimir Ostojić, CEO of Adriatic Security Solutions d.o.o., born in 1950 in Varaždin, Croatia, graduated from the University of Zagreb, Faculty of Transport and Traffic Sciences. He is an entrepreneur mainly involved in project management, consulting, development of threat assessments and risk analysis, security systems design, project revision and facility security plan development. Involved in the area of intelligent transportation systems applications in which he published several papers.

Damir Kovač, project manager at Adriatic Security Solutions d.o.o., born in 1970 in Baden, Switzerland, earned his bachelor’s degree from the Polytechnic Electrical Engineering Faculty and later graduated from the University of Zagreb, Faculty of Transport and Traffic Sciences. Previously actively involved in research and development of mobile core networks on projects like GPRS Gateway Support Node, Policy Control Server, Intelligent Packet Solution, Packet Data Gateway. Currently involved in security systems design, project management and consulting.